

Stereolithography Materials

SL
DIRECT

RenShape® SL 5170

for use on
SLA® 190/250
system

Highly Accurate Stereolithography Material for Master Patterns

- Low viscosity
- Wide process latitude and high yield
- Highly accurate with superior surface finish
- Suitable for QuickCast™ applications
- Suitable as master patterns for tooling inserts
- Suitable for form, fit and function testing

Liquid Material

MEASUREMENT	CONDITION	VALUE
Appearance		Clear Amber
Density	@ 25°C (77°F)	1.14g/cc
Viscosity	@ 30°C (86°F)	165 - 195 cps
Penetration depth (Dp)		4.8 mils
Critical exposure (Ec)		13.5 mJ/cm²
Part building layer thickness*		0.10 mm (0.004 in) 0.15 mm (0.006 in)

*Dependent upon part geometry and build parameters.

Post-Cured Material

MEASUREMENT	TEST METHOD	VALUE
		90-minute UV post-cure
Hardness, Shore D	ASTM D 2240	85
Flexural modulus	ASTM D 790	2,920 - 3,006 MPa (423 - 436 KSI)
Flexural strength	ASTM D 790	107 - 108 MPa (15,500 - 15,700 PSI)
Tensile modulus	ASTM D 638	3,737 - 4,158 MPa (542 - 603 KSI)
Tensile strength	ASTM D 638	59 - 60 MPa (8,600 - 8,800 PSI)
Elongation at break	ASTM D 638	7 - 19%
Impact strength, notched Izod	ASTM D 256 DIN 53455/ISO R 527	27 - 37 J/m (0.5 - 0.7 ft - lbs/in)
Heat deflection temperature	ASTM D 648 @ 66 PSI @ 264 PSI	55°C (131°F) 49°C (120°F)
Glass transition, Tg	DMA	65 - 90°C (149 - 184°F)
Coefficient of thermal expansion	TMA (T<Tg)	90 x 10 ⁻⁶ /°C
Thermal conductivity		0.200 W/m °K (4.78 x 10 ⁻⁴ cal/sec.cm.°C)
Density		1.22 g/cm ³

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